FIBERS SITE GROUP

November 10, 2015

Via Email Electronic Copy

Adalberto Bosque, PhD, MBA, REM, CEA
Response and Remediation Branch
U.S Environmental Protection Agency
City View Plaza II - Suite 7000
48 RD, 165 Km. 1.2
Guaynabo, PR 00968-8069

Subject: RD/RA Monthly Report – October 2015
Fibers Public Supply Wells Site
Guayama, Puerto Rico

Dear Mr. Bosque:

On behalf of the Fibers Public Supply Wells Site Settling Defendants, we are submitting the attached RD/RA Monthly Report prepared pursuant to the Consent Decree (Civil Action No. 92-2486) in the matter of *United States v. Anaquest Caribe, Inc. et al,* Section IX, Paragraph 30, Reporting Requirements.

Please feel free to contact Mr. James Kirschner of ARCADIS at (602) 797-4519 or me at (724) 544-4874 if you have any questions or comments regarding this submittal.

Sincerely,

Joe Biss, CHMM
Fibers Site Group Project Coordinator
EHS Support LLC

Copies:

Chief, New York/Caribbean Superfund Branch, Attn. Mel Hauptman- via email only
Ms. Evelyn Rivera-Ocasio, Assitant Regional Counsel – Carribean Programs – via email only
Chief, Environmental Enforcement Division, U.S. Department of Justice (DOJ #90-11-2-768)
Amarilis Rodríguez Méndez, State Remedial Project Manager, Puerto Rico Environmental Quality Board- via email only
Ms. Katherine Mishkin, Hydrolgeologist, USEPA Superfund Technical Support Section – via email only
Ms. Enid Diaz, Departmento de Recursos Naturales y Ambientales
Mr. Jorge Morales, PRIDCO - via email only
Mr. Joel Melendez Rodriguez, PRIDCO - via email only
Ms. Ana Palou Balsa, PRIDCO – via email only
Mr. Dan Vineyard, Jackson Walker- via email only
James Kirschner, Arcadis - via email only

RD/RA Monthly Report – October 2015
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

(a) Description of actions which have been taken toward achieving compliance with this Decree.

Fibers Air Stripping System

The Fibers Site Group commenced operation of the new groundwater extraction and treatment system (GWETS) on September 30, 2015, in accordance with the Groundwater Extraction and Treatment System Improvements 100% CONSTRUCTION DRAWINGS. Final programming was performed on the Main Control Panel and Human Machine Interface. System controls at extraction wells RW-2 and RW-4 were programmed and implemented. The GWETS operated in manual mode from September 30, 2015 through October 7, 2015. The GWETS started operating in automatic mode on October 7, 2015. Groundwater was pumped from three groundwater extraction wells (RW-2, RW-4 and RW-5).

A summary of the daily treatment system operating records is presented in Table 1. The new GWETS average flow rates are depicted on Figure 1 (start date October 2015).

The GWETS operated at an average flow rate of 189 gallons per minute (gpm) and treated approximately 7.84 million gallons of water in October 2015. To date (since May 1999), approximately 2.89 billion gallons of water have been treated at the Fibers Site.

(b) Summary of all sampling results and tests, and all other data received or generated by Settling Defendants.

The Fibers Site Group received groundwater laboratory analytical data from the second semi-annual groundwater monitoring event of 2015. The validated laboratory analytical data will be submitted with the second semi-annual groundwater monitoring and sampling report for 2015.

Groundwater influent and effluent samples were collected and analyzed in October 2015. A summary of the October 2015 GWETS laboratory analytical results are provided in Table 2. A summary of influent groundwater concentrations of tetrachloroethene (PCE) and total haloethers from the new GWETS is depicted on Figures 2 and 3, respectively (start date October 2015).

Arcadis U.S. Inc. (Arcadis) performed a data quality assessment (validation) of the laboratory analytical results reported by Pace Analytical Services, Inc. Results are summarized in the Data Review Report included as Attachment 1. A copy of the chain of custody and annotated sample analysis data sheets are provided as an attachment to the Data Review Report. A copy of the complete laboratory analytical report is provided as Attachment 2. A copy of the field notes documenting sample collection information, individual flow rates at the three groundwater extraction wells and treatment system parameters is provided as Attachment 3.

(c) List of all work plans, plans and other deliverables completed and submitted.

None for this reporting period.

(d) Description of all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks.

A Sampling, Analysis and Monitoring Plan Addendum is anticipated to be submitted to the United States Environmental Protection Agency (USEPA) in November 2015. An Operations,

Maintenance, and Monitoring Manual is anticipated to be submitted to the USEPA in November 2015.

A Notice of Completion Report is anticipated to be submitted to the USEPA in December 2015.

On behalf of Baxter, Environmental Resource Technologies (ERTEC) completed the second phase of the subsurface soil investigation at the Baxter-Guayama facility on the Fibers Site in October 2015. Upon completion of the data validation, a summary of results from ERTEC's Phase 2 subsurface investigation will be included in a subsequent monthly report.

(e) Information regarding the percentage completion, unresolved delays encountered or anticipated.

Construction Activities – 100% complete.
System Start-Up – 100% complete.
Start-Up Performance Monitoring – 100% complete.
Long-Term Operation & Maintenance Period – Commenced in October 2015.

(f) List of any modification to work plans or other schedules the Settling Defendants have proposed.

None.

(g) Description of activities undertaken in support of the Community Relations Plan.

No support activities have been requested for the next planning period.

(h) Actions undertaken to address outside parties concerns.

No concerns from outside parties were encountered during this reporting period.

Tables

Table 1
Summary of Daily Treatment System Operating Records - October 2015
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Recording Date	Influent Flow (gpm) [1]	Effluent Flow (gpm) [2]	RW-2 (gpm) [3]	RW-4 (gpm) [4]	RW-5 (gpm) [5]	pH [6]	Comments
9/30/2015 [7]	28	NR	0	0	28	NR	RW-2, RW-4 not pumping; pH sensor not connected to the control system.
10/01/2015	35	54	0	0	32	NR	RW-2, RW-4 not pumping; pH sensor not connected to the control system.
10/02/2015	27	16	0	0	27	NR	RW-2, RW-4 not pumping; pH sensor not connected to the control system.
10/03/2015	30	24	0	0	30	NR	RW-2, RW-4 not pumping; pH sensor not connected to the control system.
10/04/2015	30	27	0	0	30	8.6	RW-2, RW-4 not pumping.
10/05/2015	79	88	80	0	36	8.6	RW-2, RW-4 not pumping.
10/06/2015	199	213	71	102	45	8.4	
10/07/2015	291	292	93	159	60	8.3	
10/08/2015	213	238	20	132	59	8.3	
10/09/2015	238	239	49	127	63	8.3	
10/10/2015	181	172	82	49	55	8.3	
10/11/2015	261	253	99	100	62	8.3	
10/12/2015	263	271	101	99	63	8.2	
10/13/2015	236	217	91	91	54	8.2	
10/14/2015	183	212	72	74	39	8.2	
10/15/2015	139	142	53	56	29	8.3	
10/16/2015	297	284	115	120	62	8.3	
10/17/2015	291	294	105	120	59	8.3	
10/18/2015	73	66	34	36	0	8.2	RW-5 pump motor not operating.
10/19/2015	169	154	78	87	0	8.3	RW-5 pump motor not operating.
10/20/2015	253	255	115	135	0	8.3	RW-5 pump motor not operating.
10/21/2015	261	263	115	146	0	8.3	RW-5 pump motor not operating.
10/22/2015	215	223	92	124	0	8.3	RW-5 pump motor not operating.
10/23/2015	270	293	106	153	9	8.3	RW-5 pump motor not operating properly.
10/24/2015	277	284	115	160	0	8.3	RW-5 pump motor not operating.
10/25/2015	208	216	87	121	0	8.3	RW-5 pump motor not operating.
10/26/2015	0	0	0	0	0	8.2	Area power loss.
10/27/2015	178	180	63	88	30	8.2	
10/28/2015	275	277	95	134	45	8.1	
10/29/2015	185	189	63	94	30	8.0	
10/30/2015	339	335	115	172	54	8.1	
10/31/2015	334	336	111	170	54	8.1	
Monthly Average	**189**	**197**	**69**	**89**	**33**	**8.3**	

Notes:

gpm = gallons per minute.

[1] = Recorded from instrument FIT-101

[2] = Recorded from instrument FIT-301

[3] = Recorded from instrument RW2 FIT

[4] = Recorded from instrument RW4 FIT

[5] = Recorded from instrument RW5 FIT

[6] = Recorded from instrument pHIT-201A

[7] = GWETS started at 2100 hours (9:00 p.m.), September 30, 2015

Manual readings were recorded September 30, 2015 through October 7, 2015.

NR = no reading.

Table 2
Summary of Treatment System Laboratory Analytical Results
October 2015
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Fibers Groundwater Extraction and Treatment System

Laboratory analytical results for water samples collected at the influent and effluent sample tap locations from the Fibers Groundwater Extraction and Treatment System on October 8, 2015 are presented below. The system average flow rate at the time the samples were collected was 321 gallons per minute (gpm). Sample results indicate that the treatment system is operating in compliance with operating parameters pursuant to the Consent Decree.

	VOC (µg/L)			
	Sample ID			
Compound	EFF-20151008	EFFDUP-20151008	INF-20151008	TB-20151008
Tetrachloroethene	ND	ND	9.0	ND
Enflurane	ND	ND	2.7	ND
Haloether 229	ND	ND	29.3	ND
Haloether 406	ND	ND	1.6	ND
Haloether 508	ND	ND	89.1	ND
Haloether 528	ND	ND	1.4	ND
Halomar	ND	ND	1.9	ND
Isoflurane	ND	ND	83.3	ND
Total Haloethers	ND	ND	210	ND
Other VOC	ND	ND	ND	ND

Notes:
VOC = volatile organic compounds.
µg/L = micrograms per liter.
EFF = effluent sample.
EFFDUP = effluent duplicate sample.
INF = influent sample.
TB = trip blank.

Figures

Figure 1
Fibers Public Supply Wells Superfund Site
Summary of Treatment System Flow Rates

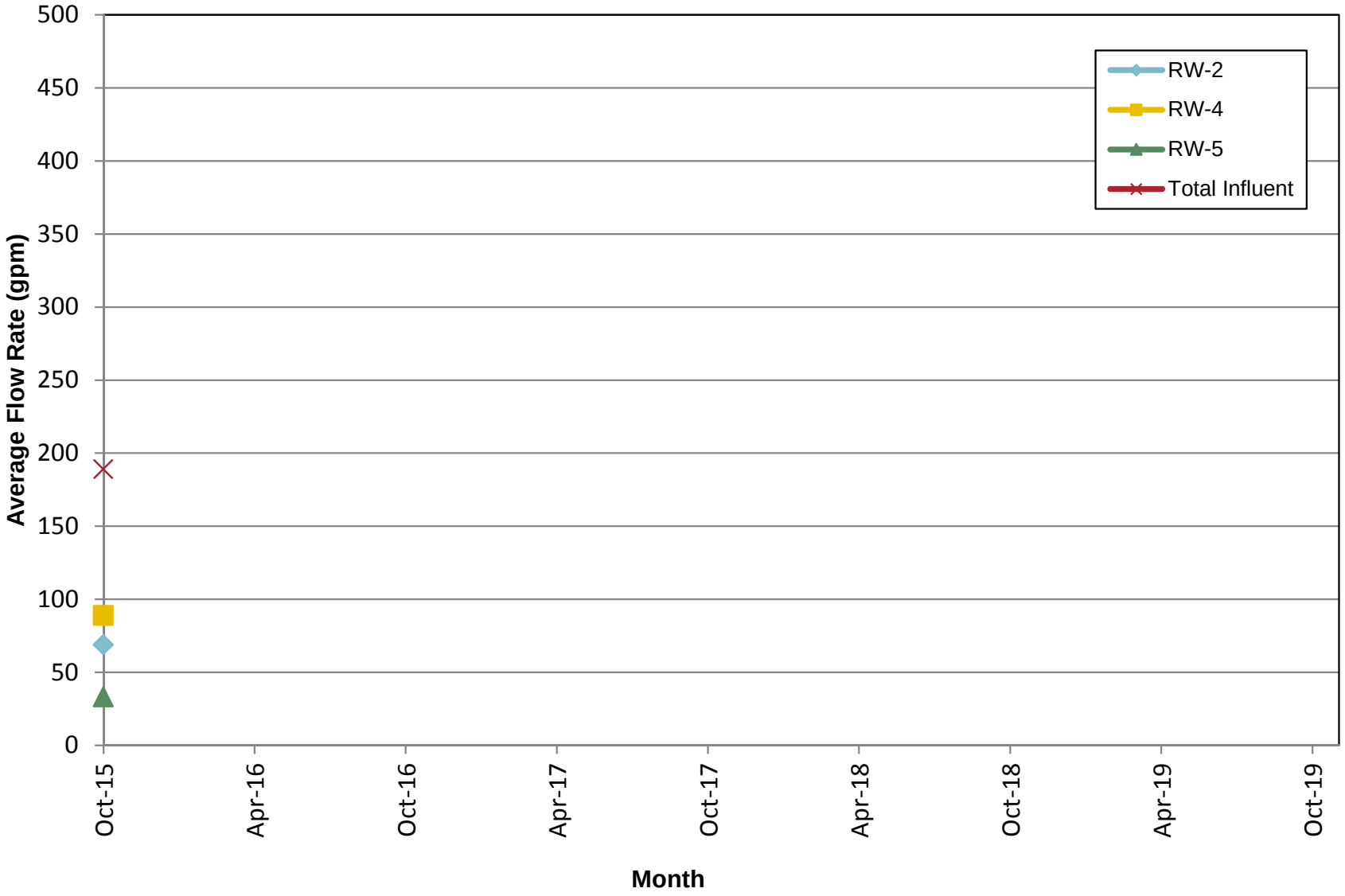


Figure 2
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Tetrachloroethene (PCE) Concentrations

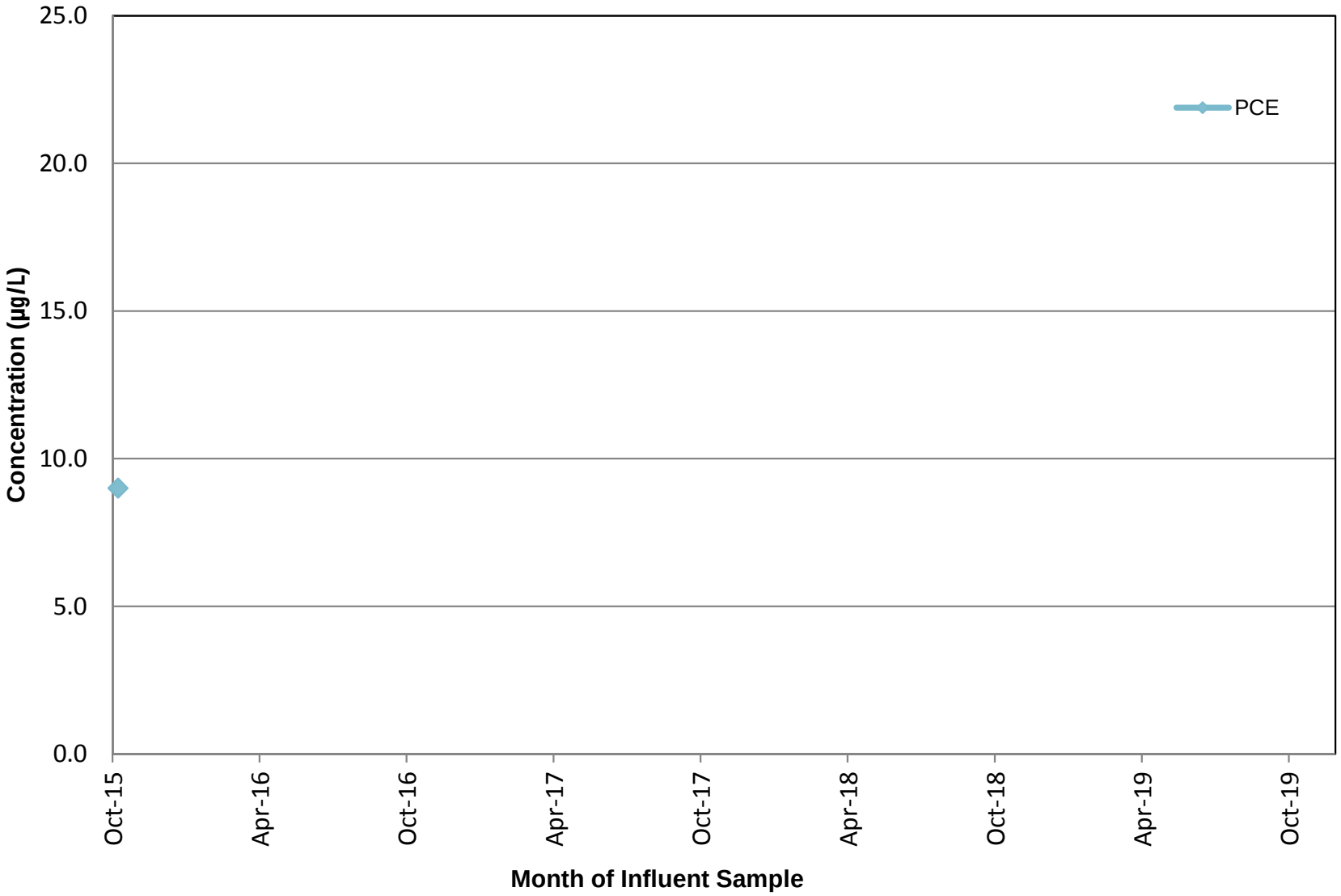
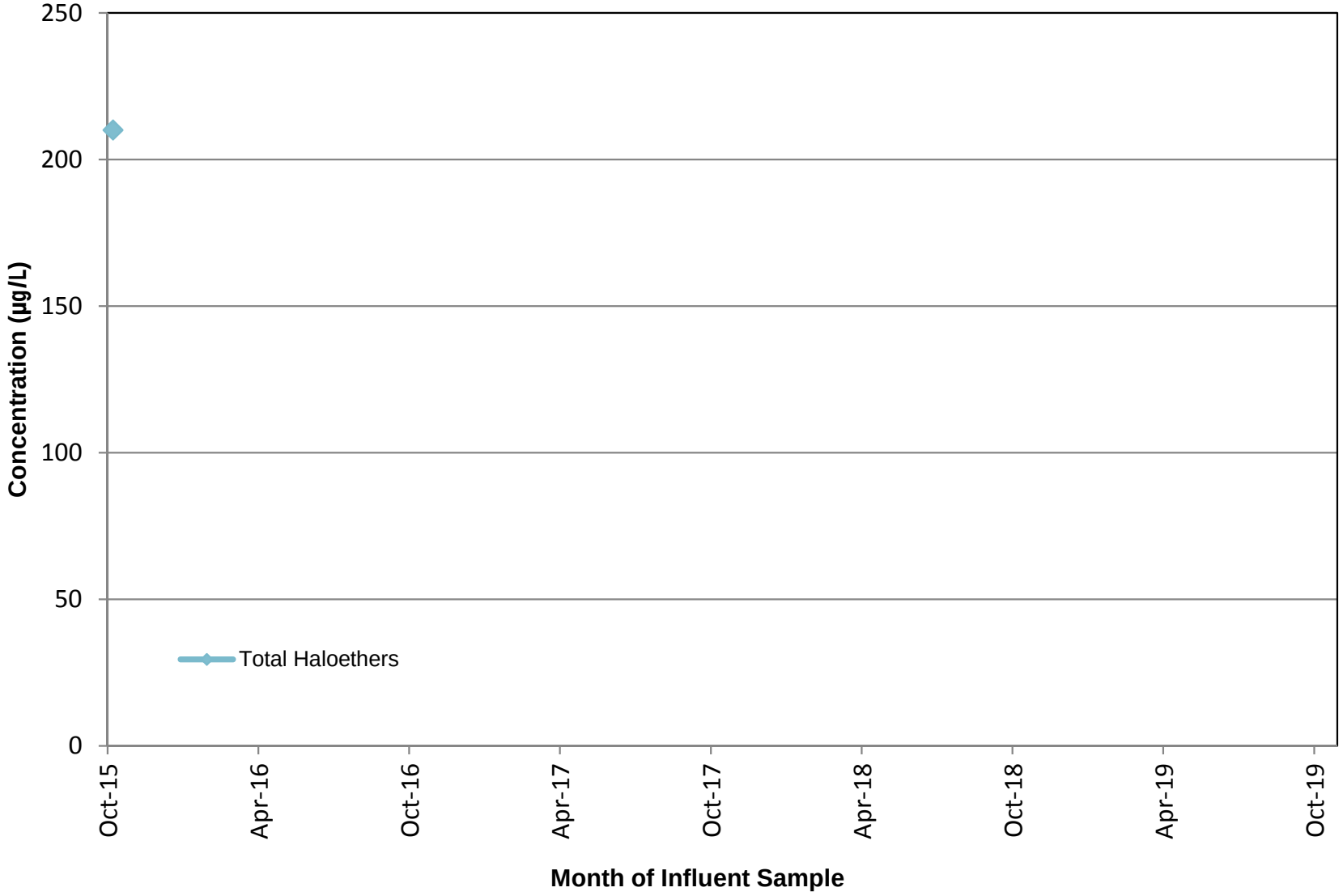


Figure 3
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Total Haloethers Concentrations



Attachment 1
Data Review Report

ARCADIS
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Imagine the result

Fibers Group

Data Review

GUAYAMA, PUERTO RICO

Volatiles Analyses

SDG #2026858
Analyses Performed By:
Pace Analytical Services, Inc.
New Orleans, Louisiana

Report: #24544R
Review Level: Tier II
Project: CO001911.0002.1507A

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #2026858 for samples collected in association with the Fibers Group Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	TPH	MET	MISC
TB-20151008	2026858001	Water	10/08/2015		X				
INF-20151008	2026858002	Water	10/08/2015		X				
EFF-20151008	2026858003	Water	10/08/2015		X				
EFFDUP-20151008	2026858004	Water	10/08/2015	EFF-20151008	X				

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location EFF-20151008.

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within acceptable holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the RL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries.

Sample locations associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
EFF-20151008	Acrolein

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
EFF-20151008/ EFFDUP-20151008	All compounds	U	U	AC

AC Acceptable
NC Not compliant

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision RPD		X	X		
Field/Laboratory Duplicate Sample RPD		X		X	
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference
%RSD Relative standard deviation
%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: November 2, 2015

PEER REVIEW: Dennis Capria

DATE: November 2, 2015

CHAIN OF CUSTODY/
ANNOTATED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: TB-20151008 **Lab ID: 2026858001** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 15:10	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 15:10	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 15:10	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 15:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 15:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 15:10	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 15:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 15:10	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 15:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 15:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 15:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 15:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 15:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/13/15 15:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 15:10	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 15:10	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 15:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:10	10061-02-6	
Enflurane	ND	ug/L	1.0	1		10/13/15 15:10	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 15:10	100-41-4	
Haloether 229	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 406	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 421	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 427	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 428	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 508	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 528	ND	ug/L	1.0	1		10/13/15 15:10		
Halomar	ND	ug/L	1.0	1		10/13/15 15:10		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 15:10	591-78-6	
Isoflurane	ND	ug/L	1.0	1		10/13/15 15:10		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 15:10	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 15:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 15:10	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 15:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 15:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/13/15 15:10	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 15:10	108-88-3	
Total Haloether	ND	ug/L	1.0	1		10/13/15 15:10		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: TB-20151008 **Lab ID: 2026858001** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 15:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 15:10	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 15:10	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 15:10	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 15:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 15:10	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%.	79-119	1		10/13/15 15:10	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	68-124	1		10/13/15 15:10	460-00-4	
Dibromofluoromethane (S)	91	%.	72-126	1		10/13/15 15:10	1868-53-7	

Sample: INF-20151008 **Lab ID: 2026858002** Collected: 10/08/15 08:24 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 15:28	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 15:28	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 15:28	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 15:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 15:28	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 15:28	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 15:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 15:28	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 15:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 15:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 15:28	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 15:28	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 15:28	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/13/15 15:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 15:28	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 15:28	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 15:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:28	10061-02-6	
Enflurane	**2.7**	ug/L	1.0	1		10/13/15 15:28	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 15:28	100-41-4	
Haloether 229	**29.3**	ug/L	1.0	1		10/13/15 15:28		
Haloether 406	**1.6**	ug/L	1.0	1		10/13/15 15:28		
Haloether 421	ND	ug/L	1.0	1		10/13/15 15:28		
Haloether 427	ND	ug/L	1.0	1		10/13/15 15:28		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: INF-20151008 **Lab ID: 2026858002** Collected: 10/08/15 08:24 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		10/13/15 15:28		
Haloether 508	**89.1**	ug/L	1.0	1		10/13/15 15:28		
Haloether 528	**1.4**	ug/L	1.0	1		10/13/15 15:28		
Halomar	**1.9**	ug/L	1.0	1		10/13/15 15:28		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 15:28	591-78-6	
Isoflurane	**83.3**	ug/L	1.0	1		10/13/15 15:28		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 15:28	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 15:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 15:28	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 15:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 15:28	79-34-5	
Tetrachloroethene	**9.0**	ug/L	1.0	1		10/13/15 15:28	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 15:28	108-88-3	
Total Haloether	**210**	ug/L	1.0	1		10/13/15 15:28		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 15:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 15:28	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 15:28	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 15:28	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 15:28	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 15:28	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%.	79-119	1		10/13/15 15:28	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	68-124	1		10/13/15 15:28	460-00-4	
Dibromofluoromethane (S)	90	%.	72-126	1		10/13/15 15:28	1868-53-7	

Sample: EFF-20151008 **Lab ID: 2026858003** Collected: 10/08/15 08:32 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 16:04	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 16:04	107-02-8	~~R1~~ UJ
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 16:04	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 16:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 16:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 16:04	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 16:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 16:04	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 16:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 16:04	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 16:04	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 16:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 16:04	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: EFF-20151008 **Lab ID: 2026858003** Collected: 10/08/15 08:32 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		10/13/15 16:04	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 16:04	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 16:04	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 16:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 16:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 16:04	10061-02-6	
Enflurane	ND	ug/L	1.0	1		10/13/15 16:04	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 16:04	100-41-4	
Haloether 229	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 406	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 421	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 427	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 428	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 508	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 528	ND	ug/L	1.0	1		10/13/15 16:04		
Halomar	ND	ug/L	1.0	1		10/13/15 16:04		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 16:04	591-78-6	
Isoflurane	ND	ug/L	1.0	1		10/13/15 16:04		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 16:04	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 16:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 16:04	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 16:04	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 16:04	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/13/15 16:04	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 16:04	108-88-3	
Total Haloether	ND	ug/L	1.0	1		10/13/15 16:04		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 16:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 16:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 16:04	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 16:04	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 16:04	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 16:04	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		10/13/15 16:04	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	68-124	1		10/13/15 16:04	460-00-4	
Dibromofluoromethane (S)	90	%.	72-126	1		10/13/15 16:04	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: EFFDUP-20151008 **Lab ID: 2026858004** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 15:46	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 15:46	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 15:46	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 15:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 15:46	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 15:46	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 15:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 15:46	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 15:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 15:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 15:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 15:46	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 15:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/13/15 15:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 15:46	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 15:46	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 15:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:46	10061-02-6	
Enflurane	ND	ug/L	1.0	1		10/13/15 15:46	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 15:46	100-41-4	
Haloether 229	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 406	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 421	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 427	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 428	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 508	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 528	ND	ug/L	1.0	1		10/13/15 15:46		
Halomar	ND	ug/L	1.0	1		10/13/15 15:46		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 15:46	591-78-6	
Isoflurane	ND	ug/L	1.0	1		10/13/15 15:46		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 15:46	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 15:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 15:46	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 15:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 15:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/13/15 15:46	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 15:46	108-88-3	
Total Haloether	ND	ug/L	1.0	1		10/13/15 15:46		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: EFFDUP-20151008 **Lab ID: 2026858004** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 15:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 15:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 15:46	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 15:46	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 15:46	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 15:46	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		10/13/15 15:46	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	68-124	1		10/13/15 15:46	460-00-4	
Dibromofluoromethane (S)	90	%.	72-126	1		10/13/15 15:46	1868-53-7	

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUME

WO# : 2026858

2026858

Page 1 of 17

Pace Analytical®

Section A
Required Client Information:

Company	Arcadis U.S. Inc
Address	410 North 44th St, Suite 1000
	Phoenix, AZ 85008
Email To:	david.hamad@arcadis-us.com
Phone	602.797.4518
Fax	
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To:	David Hamad
Copy To:	Cassandra Mcdowd
	cassandra.mcdowd@arcadis-us.com
Purchase Order No.:	60001911.0002.15024
Project Name:	Fibers Public Supply wells
Project Number:	60001911.0002.15024

Section C
Invoice Information:

Attention:	Accounts Payable
Company Name:	Arcadis
Address:	
Pace Quote Reference:	
Pace Project Manager:	Justin.stoddard@pacelabs.com
Pace Profile #:	1037 L1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ Other_____

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☐SC ☐WI ☐OTHER _____

Section D
Required Client Information

SAMPLE ID

One Character per box.
(A-Z, 0-9 / .-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: 8260 VOC Holdings	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	TB-100815	WT	G			08/10/15	LAB		2				2						X		
2	INF-20151008	WT	G			08/10/15	0824		3				3						X		
3	EFF-20151008	WT	G			08/10/15	0832		3				3						X		
4	EFFDUP-20151008	WT	G			08/10/15	08		3				3						X		
5	EFFMSD-20151008	WT	G			08/10/15	0832		3				3						X		
6	EFFMS-20151008	WT	G			08/10/15	0832		3				3						X		
7																					
8																					
9																					
10																					
11																					
12																					

Fibers

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITION
Andi Cotton / Arcadis	10/8/15	1202	HRTS	10/09/15	12:12	4°C
	10/8/15	1330	Pace	10-8-15	1330	4
			Fed Ex			
Fed Ex	10/9/15	1035		10/9/15	1035	4.7

SAMPLE CONDITION	Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
	4°C	Y/N	Y/N	Y/N
	4	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
	4.7	Y/N	Y/N	Y/N

Additional Comments:

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andi Cotton

SIGNATURE of SAMPLER:

DATE Signed (MM / DD / YY): 10/05/15

SEE REVERSE SIDE FOR INSTRUCTIONS

Attachment 2
Laboratory Analytical Report

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

October 14, 2015

David Howard
ARCADIS
410 North 44th St.
Suite 1000
Phoenix, AZ 85008

RE: Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Dear David Howard:
Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Justin L. Stock
justin.stock@pacelabs.com
Project Manager

Enclosures

cc: Cassandra McCloud
Marla Miller, ARCADIS U.S.
Monica Rappaport, ARCADIS
Elvin Varela, ARCADIS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

CERTIFICATIONS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

SAMPLE SUMMARY

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2026858001	**TB-20151008**	Water	10/08/15 00:00	10/09/15 10:35
2026858002	**INF-20151008**	Water	10/08/15 08:24	10/09/15 10:35
2026858003	**EFF-20151008**	Water	10/08/15 08:32	10/09/15 10:35
2026858004	**EFFDUP-20151008**	Water	10/08/15 00:00	10/09/15 10:35

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SAMPLE ANALYTE COUNT

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2026858001	**TB-20151008**	EPA 5030B/8260	MLS	56	PASI-N
2026858002	**INF-20151008**	EPA 5030B/8260	MLS	56	PASI-N
2026858003	**EFF-20151008**	EPA 5030B/8260	MLS	56	PASI-N
2026858004	**EFFDUP-20151008**	EPA 5030B/8260	MLS	56	PASI-N

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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Date: October 14, 2015

Per email, samples were collected on 10/08/15, not 08/10/15. Also, Pace sample 2026858001 is "TB-20151008".

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(504)469-0333

PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: October 14, 2015

General Information:
4 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/3844

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2026858003

R1: RPD value was outside control limits.

- MSD (Lab ID: 165690)
  - Acrolein

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: TB-20151008 **Lab ID: 2026858001** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 15:10	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 15:10	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 15:10	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 15:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 15:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 15:10	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 15:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 15:10	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 15:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 15:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 15:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 15:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 15:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/13/15 15:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 15:10	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 15:10	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 15:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:10	10061-02-6	
Enflurane	ND	ug/L	1.0	1		10/13/15 15:10	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 15:10	100-41-4	
Haloether 229	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 406	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 421	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 427	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 428	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 508	ND	ug/L	1.0	1		10/13/15 15:10		
Haloether 528	ND	ug/L	1.0	1		10/13/15 15:10		
Halomar	ND	ug/L	1.0	1		10/13/15 15:10		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 15:10	591-78-6	
Isoflurane	ND	ug/L	1.0	1		10/13/15 15:10		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 15:10	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 15:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 15:10	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 15:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 15:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/13/15 15:10	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 15:10	108-88-3	
Total Haloether	ND	ug/L	1.0	1		10/13/15 15:10		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 15:10	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: TB-20151008 **Lab ID: 2026858001** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 15:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 15:10	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 15:10	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 15:10	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 15:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 15:10	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%.	79-119	1		10/13/15 15:10	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	68-124	1		10/13/15 15:10	460-00-4	
Dibromofluoromethane (S)	91	%.	72-126	1		10/13/15 15:10	1868-53-7	

Sample: INF-20151008 **Lab ID: 2026858002** Collected: 10/08/15 08:24 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 15:28	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 15:28	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 15:28	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 15:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 15:28	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 15:28	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 15:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 15:28	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 15:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 15:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 15:28	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 15:28	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 15:28	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/13/15 15:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 15:28	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 15:28	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 15:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:28	10061-02-6	
Enflurane	**2.7**	ug/L	1.0	1		10/13/15 15:28	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 15:28	100-41-4	
Haloether 229	**29.3**	ug/L	1.0	1		10/13/15 15:28		
Haloether 406	**1.6**	ug/L	1.0	1		10/13/15 15:28		
Haloether 421	ND	ug/L	1.0	1		10/13/15 15:28		
Haloether 427	ND	ug/L	1.0	1		10/13/15 15:28		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: INF-20151008 **Lab ID: 2026858002** Collected: 10/08/15 08:24 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		10/13/15 15:28		
Haloether 508	**89.1**	ug/L	1.0	1		10/13/15 15:28		
Haloether 528	**1.4**	ug/L	1.0	1		10/13/15 15:28		
Halomar	**1.9**	ug/L	1.0	1		10/13/15 15:28		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 15:28	591-78-6	
Isoflurane	**83.3**	ug/L	1.0	1		10/13/15 15:28		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 15:28	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 15:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 15:28	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 15:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 15:28	79-34-5	
Tetrachloroethene	**9.0**	ug/L	1.0	1		10/13/15 15:28	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 15:28	108-88-3	
Total Haloether	**210**	ug/L	1.0	1		10/13/15 15:28		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:28	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 15:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 15:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 15:28	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 15:28	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 15:28	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 15:28	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 15:28	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%.	79-119	1		10/13/15 15:28	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	68-124	1		10/13/15 15:28	460-00-4	
Dibromofluoromethane (S)	90	%.	72-126	1		10/13/15 15:28	1868-53-7	

Sample: EFF-20151008 **Lab ID: 2026858003** Collected: 10/08/15 08:32 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 16:04	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 16:04	107-02-8	R1
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 16:04	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 16:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 16:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 16:04	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 16:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 16:04	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 16:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 16:04	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 16:04	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 16:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 16:04	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: EFF-20151008 **Lab ID: 2026858003** Collected: 10/08/15 08:32 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		10/13/15 16:04	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 16:04	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 16:04	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 16:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 16:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 16:04	10061-02-6	
Enflurane	ND	ug/L	1.0	1		10/13/15 16:04	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 16:04	100-41-4	
Haloether 229	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 406	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 421	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 427	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 428	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 508	ND	ug/L	1.0	1		10/13/15 16:04		
Haloether 528	ND	ug/L	1.0	1		10/13/15 16:04		
Halomar	ND	ug/L	1.0	1		10/13/15 16:04		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 16:04	591-78-6	
Isoflurane	ND	ug/L	1.0	1		10/13/15 16:04		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 16:04	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 16:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 16:04	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 16:04	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 16:04	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/13/15 16:04	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 16:04	108-88-3	
Total Haloether	ND	ug/L	1.0	1		10/13/15 16:04		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 16:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 16:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 16:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 16:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 16:04	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 16:04	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 16:04	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 16:04	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		10/13/15 16:04	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	68-124	1		10/13/15 16:04	460-00-4	
Dibromofluoromethane (S)	90	%.	72-126	1		10/13/15 16:04	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: EFFDUP-20151008 **Lab ID: 2026858004** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		10/13/15 15:46	67-64-1	
Acrolein	ND	ug/L	8.0	1		10/13/15 15:46	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		10/13/15 15:46	107-13-1	
Benzene	ND	ug/L	1.0	1		10/13/15 15:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/13/15 15:46	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/13/15 15:46	75-25-2	
Bromomethane	ND	ug/L	1.0	1		10/13/15 15:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		10/13/15 15:46	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		10/13/15 15:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/13/15 15:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/13/15 15:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/13/15 15:46	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/13/15 15:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/13/15 15:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		10/13/15 15:46	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		10/13/15 15:46	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/13/15 15:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/13/15 15:46	10061-02-6	
Enflurane	ND	ug/L	1.0	1		10/13/15 15:46	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		10/13/15 15:46	100-41-4	
Haloether 229	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 406	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 421	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 427	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 428	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 508	ND	ug/L	1.0	1		10/13/15 15:46		
Haloether 528	ND	ug/L	1.0	1		10/13/15 15:46		
Halomar	ND	ug/L	1.0	1		10/13/15 15:46		
2-Hexanone	ND	ug/L	2.0	1		10/13/15 15:46	591-78-6	
Isoflurane	ND	ug/L	1.0	1		10/13/15 15:46		
Methoxyflurane	ND	ug/L	1.0	1		10/13/15 15:46	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		10/13/15 15:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		10/13/15 15:46	108-10-1	
Styrene	ND	ug/L	1.0	1		10/13/15 15:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/13/15 15:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/13/15 15:46	127-18-4	
Toluene	ND	ug/L	1.0	1		10/13/15 15:46	108-88-3	
Total Haloether	ND	ug/L	1.0	1		10/13/15 15:46		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/13/15 15:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/13/15 15:46	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Sample: EFFDUP-20151008 **Lab ID: 2026858004** Collected: 10/08/15 00:00 Received: 10/09/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		10/13/15 15:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/13/15 15:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		10/13/15 15:46	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		10/13/15 15:46	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/13/15 15:46	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/13/15 15:46	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		10/13/15 15:46	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	68-124	1		10/13/15 15:46	460-00-4	
Dibromofluoromethane (S)	90	%.	72-126	1		10/13/15 15:46	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

QC Batch: MSV/3844 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV
Associated Lab Samples: 2026858001, 2026858002, 2026858003, 2026858004

METHOD BLANK: 165687 Matrix: Water
Associated Lab Samples: 2026858001, 2026858002, 2026858003, 2026858004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/13/15 11:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/13/15 11:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/13/15 11:24	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	10/13/15 11:24	
1,1-Dichloroethane	ug/L	ND	1.0	10/13/15 11:24	
1,1-Dichloroethene	ug/L	ND	1.0	10/13/15 11:24	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/13/15 11:24	
1,2-Dichloroethane	ug/L	ND	1.0	10/13/15 11:24	
1,2-Dichloropropane	ug/L	ND	1.0	10/13/15 11:24	
2-Butanone (MEK)	ug/L	ND	2.0	10/13/15 11:24	
2-Hexanone	ug/L	ND	2.0	10/13/15 11:24	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	10/13/15 11:24	
Acetone	ug/L	ND	4.0	10/13/15 11:24	
Acrolein	ug/L	ND	8.0	10/13/15 11:24	
Acrylonitrile	ug/L	ND	4.0	10/13/15 11:24	
Benzene	ug/L	ND	1.0	10/13/15 11:24	
Bromodichloromethane	ug/L	ND	1.0	10/13/15 11:24	
Bromoform	ug/L	ND	1.0	10/13/15 11:24	
Bromomethane	ug/L	ND	1.0	10/13/15 11:24	
Carbon disulfide	ug/L	ND	1.0	10/13/15 11:24	
Carbon tetrachloride	ug/L	ND	1.0	10/13/15 11:24	
Chlorobenzene	ug/L	ND	1.0	10/13/15 11:24	
Chloroethane	ug/L	ND	1.0	10/13/15 11:24	
Chloroform	ug/L	ND	1.0	10/13/15 11:24	
Chloromethane	ug/L	ND	1.0	10/13/15 11:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/13/15 11:24	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/13/15 11:24	
Dibromochloromethane	ug/L	ND	1.0	10/13/15 11:24	
Dibromomethane	ug/L	ND	1.0	10/13/15 11:24	
Enflurane	ug/L	ND	1.0	10/13/15 11:24	
Ethylbenzene	ug/L	ND	1.0	10/13/15 11:24	
Haloether 229	ug/L	ND	1.0	10/13/15 11:24	
Haloether 406	ug/L	ND	1.0	10/13/15 11:24	
Haloether 421	ug/L	ND	1.0	10/13/15 11:24	
Haloether 427	ug/L	ND	1.0	10/13/15 11:24	
Haloether 428	ug/L	ND	1.0	10/13/15 11:24	
Haloether 508	ug/L	ND	1.0	10/13/15 11:24	
Haloether 528	ug/L	ND	1.0	10/13/15 11:24	
Halomar	ug/L	ND	1.0	10/13/15 11:24	
Isoflurane	ug/L	ND	1.0	10/13/15 11:24	
m&p-Xylene	ug/L	ND	2.0	10/13/15 11:24	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

METHOD BLANK: 165687 Matrix: Water
Associated Lab Samples: 2026858001, 2026858002, 2026858003, 2026858004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methoxyflurane	ug/L	ND	1.0	10/13/15 11:24	
Methylene Chloride	ug/L	ND	5.0	10/13/15 11:24	
o-Xylene	ug/L	ND	1.0	10/13/15 11:24	
Styrene	ug/L	ND	1.0	10/13/15 11:24	
Tetrachloroethene	ug/L	ND	1.0	10/13/15 11:24	
Toluene	ug/L	ND	1.0	10/13/15 11:24	
Total Haloether	ug/L	ND	1.0	10/13/15 11:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/13/15 11:24	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/13/15 11:24	
Trichloroethene	ug/L	ND	1.0	10/13/15 11:24	
Trichlorofluoromethane	ug/L	ND	1.0	10/13/15 11:24	
Vinyl chloride	ug/L	ND	1.0	10/13/15 11:24	
4-Bromofluorobenzene (S)	%.	102	68-124	10/13/15 11:24	
Dibromofluoromethane (S)	%.	95	72-126	10/13/15 11:24	
Toluene-d8 (S)	%.	102	79-119	10/13/15 11:24	

METHOD BLANK: 165898 Matrix: Water
Associated Lab Samples: 2026858001, 2026858002, 2026858003, 2026858004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/14/15 10:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/14/15 10:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/14/15 10:01	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	10/14/15 10:01	
1,1-Dichloroethane	ug/L	ND	1.0	10/14/15 10:01	
1,1-Dichloroethene	ug/L	ND	1.0	10/14/15 10:01	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/14/15 10:01	
1,2-Dichloroethane	ug/L	ND	1.0	10/14/15 10:01	
1,2-Dichloropropane	ug/L	ND	1.0	10/14/15 10:01	
2-Butanone (MEK)	ug/L	ND	2.0	10/14/15 10:01	
2-Hexanone	ug/L	ND	2.0	10/14/15 10:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	10/14/15 10:01	
Acetone	ug/L	ND	4.0	10/14/15 10:01	
Acrolein	ug/L	ND	8.0	10/14/15 10:01	
Acrylonitrile	ug/L	ND	4.0	10/14/15 10:01	
Benzene	ug/L	ND	1.0	10/14/15 10:01	
Bromodichloromethane	ug/L	ND	1.0	10/14/15 10:01	
Bromoform	ug/L	ND	1.0	10/14/15 10:01	
Bromomethane	ug/L	ND	1.0	10/14/15 10:01	
Carbon disulfide	ug/L	ND	1.0	10/14/15 10:01	
Carbon tetrachloride	ug/L	ND	1.0	10/14/15 10:01	
Chlorobenzene	ug/L	ND	1.0	10/14/15 10:01	
Chloroethane	ug/L	ND	1.0	10/14/15 10:01	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

METHOD BLANK: 165898 Matrix: Water
Associated Lab Samples: 2026858001, 2026858002, 2026858003, 2026858004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloroform	ug/L	ND	1.0	10/14/15 10:01	
Chloromethane	ug/L	ND	1.0	10/14/15 10:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/14/15 10:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/14/15 10:01	
Dibromochloromethane	ug/L	ND	1.0	10/14/15 10:01	
Dibromomethane	ug/L	ND	1.0	10/14/15 10:01	
Enflurane	ug/L	ND	1.0	10/14/15 10:01	
Ethylbenzene	ug/L	ND	1.0	10/14/15 10:01	
Haloether 229	ug/L	ND	1.0	10/14/15 10:01	
Haloether 406	ug/L	ND	1.0	10/14/15 10:01	
Haloether 421	ug/L	ND	1.0	10/14/15 10:01	
Haloether 427	ug/L	ND	1.0	10/14/15 10:01	
Haloether 428	ug/L	ND	1.0	10/14/15 10:01	
Haloether 508	ug/L	ND	1.0	10/14/15 10:01	
Haloether 528	ug/L	ND	1.0	10/14/15 10:01	
Halomar	ug/L	ND	1.0	10/14/15 10:01	
Isoflurane	ug/L	ND	1.0	10/14/15 10:01	
m&p-Xylene	ug/L	ND	2.0	10/14/15 10:01	
Methoxyflurane	ug/L	ND	1.0	10/14/15 10:01	
Methylene Chloride	ug/L	ND	5.0	10/14/15 10:01	
o-Xylene	ug/L	ND	1.0	10/14/15 10:01	
Styrene	ug/L	ND	1.0	10/14/15 10:01	
Tetrachloroethene	ug/L	ND	1.0	10/14/15 10:01	
Toluene	ug/L	ND	1.0	10/14/15 10:01	
Total Haloether	ug/L	ND	1.0	10/14/15 10:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/14/15 10:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/14/15 10:01	
Trichloroethene	ug/L	ND	1.0	10/14/15 10:01	
Trichlorofluoromethane	ug/L	ND	1.0	10/14/15 10:01	
Vinyl chloride	ug/L	ND	1.0	10/14/15 10:01	
4-Bromofluorobenzene (S)	%.	100	68-124	10/14/15 10:01	
Dibromofluoromethane (S)	%.	88	72-126	10/14/15 10:01	
Toluene-d8 (S)	%.	104	79-119	10/14/15 10:01	

LABORATORY CONTROL SAMPLE: 165688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	47.2	94	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	49.2	98	15-179	
1,1,2-Trichloroethane	ug/L	50	48.6	97	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	49.5	99	38-121	
1,1-Dichloroethane	ug/L	50	43.6	87	63-129	
1,1-Dichloroethene	ug/L	50	48.8	98	51-139	
1,2,3-Trichloropropane	ug/L	50	49.0	98	13-187	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

LABORATORY CONTROL SAMPLE: 165688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.2	84	57-148	
1,2-Dichloropropane	ug/L	50	45.4	91	66-128	
2-Butanone (MEK)	ug/L	50	38.5	77	32-183	
2-Hexanone	ug/L	50	41.2	82	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	40.8	82	26-171	
Acetone	ug/L	50	40.3	81	22-165	
Acrolein	ug/L	100	14.1	14	10-131	
Acrylonitrile	ug/L	50	39.1	78	18-149	
Benzene	ug/L	50	54.1	108	62-131	
Bromodichloromethane	ug/L	50	44.9	90	69-132	
Bromoform	ug/L	50	45.2	90	35-166	
Bromomethane	ug/L	50	54.7	109	34-158	
Carbon disulfide	ug/L	50	48.3	97	31-128	
Carbon tetrachloride	ug/L	50	47.9	96	54-144	
Chlorobenzene	ug/L	50	48.4	97	70-127	
Chloroethane	ug/L	50	46.2	92	17-195	
Chloroform	ug/L	50	42.8	86	73-134	
Chloromethane	ug/L	50	31.6	63	17-153	
cis-1,2-Dichloroethene	ug/L	50	45.6	91	68-129	
cis-1,3-Dichloropropene	ug/L	50	50.2	100	72-138	
Dibromochloromethane	ug/L	50	42.8	86	49-146	
Dibromomethane	ug/L	50	48.0	96	56-145	
Enflurane	ug/L	50	46.2	92	56-135	
Ethylbenzene	ug/L	50	46.7	93	66-126	
Haloether 229	ug/L	50	34.3	69	62-123	
Haloether 406	ug/L	50	44.3	89	62-134	
Haloether 421	ug/L	50	50.9	102	70-128	
Haloether 427	ug/L	50	51.5	103	69-153	
Haloether 428	ug/L	50	52.2	104	70-134	
Haloether 508	ug/L	50	43.3	87	52-139	
Haloether 528	ug/L	50	53.0	106	48-157	
Halomar	ug/L	50	45.4	91	62-128	
Isoflurane	ug/L	50	45.0	90	61-132	
m&p-Xylene	ug/L	100	95.7	96	65-129	
Methoxyflurane	ug/L	50	52.2	104	72-124	
Methylene Chloride	ug/L	50	48.2	96	46-168	
o-Xylene	ug/L	50	48.6	97	65-124	
Styrene	ug/L	50	50.9	102	72-133	
Tetrachloroethene	ug/L	50	50.9	102	46-157	
Toluene	ug/L	50	50.4	101	69-126	
Total Haloether	ug/L		518			
trans-1,2-Dichloroethene	ug/L	50	44.6	89	60-129	
trans-1,3-Dichloropropene	ug/L	50	48.0	96	59-149	
Trichloroethene	ug/L	50	47.6	95	67-132	
Trichlorofluoromethane	ug/L	50	51.9	104	39-171	
Vinyl chloride	ug/L	50	38.4	77	27-149	
4-Bromofluorobenzene (S)	%.			99	68-124	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

LABORATORY CONTROL SAMPLE: 165688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromofluoromethane (S)	%.			93	72-126	
Toluene-d8 (S)	%.			103	79-119	

LABORATORY CONTROL SAMPLE: 165899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	44.7	89	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	46.7	93	15-179	
1,1,2-Trichloroethane	ug/L	50	46.4	93	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	47.6	95	38-121	
1,1-Dichloroethane	ug/L	50	42.0	84	63-129	
1,1-Dichloroethene	ug/L	50	48.4	97	51-139	
1,2,3-Trichloropropane	ug/L	50	46.6	93	13-187	
1,2-Dichloroethane	ug/L	50	41.6	83	57-148	
1,2-Dichloropropane	ug/L	50	44.3	89	66-128	
2-Butanone (MEK)	ug/L	50	35.3	71	32-183	
2-Hexanone	ug/L	50	38.4	77	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	39.4	79	26-171	
Acetone	ug/L	50	35.6	71	22-165	
Acrolein	ug/L	100	64.3	64	10-131	
Acrylonitrile	ug/L	50	37.7	75	18-149	
Benzene	ug/L	50	53.8	108	62-131	
Bromodichloromethane	ug/L	50	43.1	86	69-132	
Bromoform	ug/L	50	43.4	87	35-166	
Bromomethane	ug/L	50	54.0	108	34-158	
Carbon disulfide	ug/L	50	48.4	97	31-128	
Carbon tetrachloride	ug/L	50	46.6	93	54-144	
Chlorobenzene	ug/L	50	47.0	94	70-127	
Chloroethane	ug/L	50	43.8	88	17-195	
Chloroform	ug/L	50	40.5	81	73-134	
Chloromethane	ug/L	50	34.0	68	17-153	
cis-1,2-Dichloroethene	ug/L	50	43.9	88	68-129	
cis-1,3-Dichloropropene	ug/L	50	48.9	98	72-138	
Dibromochloromethane	ug/L	50	41.5	83	49-146	
Dibromomethane	ug/L	50	47.3	95	56-145	
Enflurane	ug/L	50	43.3	87	56-135	
Ethylbenzene	ug/L	50	45.3	91	66-126	
Haloether 229	ug/L	50	31.8	64	62-123	
Haloether 406	ug/L	50	40.6	81	62-134	
Haloether 421	ug/L	50	49.2	98	70-128	
Haloether 427	ug/L	50	49.1	98	69-153	
Haloether 428	ug/L	50	49.3	99	70-134	
Haloether 508	ug/L	50	39.4	79	52-139	
Haloether 528	ug/L	50	49.7	99	48-157	
Halomar	ug/L	50	42.9	86	62-128	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

LABORATORY CONTROL SAMPLE: 165899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isoflurane	ug/L	50	42.0	84	61-132	
m&p-Xylene	ug/L	100	92.9	93	65-129	
Methoxyflurane	ug/L	50	50.5	101	72-124	
Methylene Chloride	ug/L	50	45.5	91	46-168	
o-Xylene	ug/L	50	47.6	95	65-124	
Styrene	ug/L	50	49.4	99	72-133	
Tetrachloroethene	ug/L	50	49.5	99	46-157	
Toluene	ug/L	50	49.7	99	69-126	
Total Haloether	ug/L		488			
trans-1,2-Dichloroethene	ug/L	50	43.4	87	60-129	
trans-1,3-Dichloropropene	ug/L	50	46.2	92	59-149	
Trichloroethene	ug/L	50	46.2	92	67-132	
Trichlorofluoromethane	ug/L	50	50.1	100	39-171	
Vinyl chloride	ug/L	50	38.0	76	27-149	
4-Bromofluorobenzene (S)	%.			98	68-124	
Dibromofluoromethane (S)	%.			89	72-126	
Toluene-d8 (S)	%.			103	79-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165689 165690

Parameter	Units	2026858003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	48.7	44.1	97	88	54-137	10	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	46.4	43.8	93	88	15-187	6	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	46.4	44.2	93	88	59-148	5	20	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	52.9	48.1	106	96	40-117	9	20	
1,1-Dichloroethane	ug/L	ND	50	50	44.6	40.1	89	80	59-133	11	20	
1,1-Dichloroethene	ug/L	ND	50	50	53.0	47.0	106	94	44-146	12	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	45.7	44.6	91	89	14-199	3	20	
1,2-Dichloroethane	ug/L	ND	50	50	42.2	39.8	84	80	56-154	6	20	
1,2-Dichloropropane	ug/L	ND	50	50	46.1	42.6	92	85	62-135	8	20	
2-Butanone (MEK)	ug/L	ND	50	50	34.0	32.8	68	66	20-205	3	20	
2-Hexanone	ug/L	ND	50	50	36.6	35.7	73	71	25-189	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	37.1	35.6	74	71	23-184	4	20	
Acetone	ug/L	ND	50	50	36.4	35.2	73	70	11-217	3	20	
Acrolein	ug/L	ND	100	100	96.8	75.0	97	75	10-142	25	20	R1
Acrylonitrile	ug/L	ND	50	50	36.7	34.5	73	69	20-164	6	20	
Benzene	ug/L	ND	50	50	57.1	51.3	114	103	52-141	11	20	
Bromodichloromethane	ug/L	ND	50	50	44.7	41.5	89	83	70-134	7	20	
Bromoform	ug/L	ND	50	50	43.5	41.7	87	83	37-171	4	20	
Bromomethane	ug/L	ND	50	50	59.8	53.8	120	108	34-155	10	20	
Carbon disulfide	ug/L	ND	50	50	57.3	47.8	115	96	28-130	18	20	
Carbon tetrachloride	ug/L	ND	50	50	50.8	45.4	102	91	48-146	11	20	
Chlorobenzene	ug/L	ND	50	50	49.0	45.5	98	91	67-129	7	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165689 165690

Parameter	Units	2026858003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloroethane	ug/L	ND	50	50	47.9	44.4	96	89	12-192	8	20	
Chloroform	ug/L	ND	50	50	43.0	39.1	86	78	66-143	10	20	
Chloromethane	ug/L	ND	50	50	38.1	33.9	76	68	14-155	12	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	46.5	41.8	93	84	56-141	11	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	50.3	46.6	101	93	70-139	7	20	
Dibromochloromethane	ug/L	ND	50	50	41.8	39.6	84	79	50-150	6	20	
Dibromomethane	ug/L	ND	50	50	47.4	45.3	95	91	58-153	5	20	
Enflurane	ug/L	ND	50	50	47.0	42.0	94	84	63-126	11	20	
Ethylbenzene	ug/L	ND	50	50	48.1	43.9	96	88	57-135	9	20	
Haloether 229	ug/L	ND	50	50	37.5	33.9	75	68	56-127	10	20	
Haloether 406	ug/L	ND	50	50	45.2	40.8	90	82	68-128	10	20	
Haloether 421	ug/L	ND	50	50	51.7	47.5	103	95	74-120	8	20	
Haloether 427	ug/L	ND	50	50	53.8	48.9	108	98	78-120	10	20	
Haloether 428	ug/L	ND	50	50	54.4	49.8	109	100	74-125	9	20	
Haloether 508	ug/L	ND	50	50	44.0	39.2	88	78	28-156	12	20	
Haloether 528	ug/L	ND	50	50	54.4	48.8	109	98	45-142	11	20	
Halomar	ug/L	ND	50	50	45.3	41.1	91	82	67-123	10	20	
Isoflurane	ug/L	ND	50	50	45.3	41.7	91	83	45-140	8	20	
m&p-Xylene	ug/L	ND	100	100	98.6	90.7	99	91	56-136	8	20	
Methoxyflurane	ug/L	ND	50	50	52.0	48.4	104	97	75-119	7	20	
Methylene Chloride	ug/L	ND	50	50	47.0	43.8	94	88	45-166	7	20	
o-Xylene	ug/L	ND	50	50	49.0	45.6	98	91	57-133	7	20	
Styrene	ug/L	ND	50	50	50.6	47.7	101	95	58-144	6	20	
Tetrachloroethene	ug/L	ND	50	50	53.0	48.4	106	97	48-143	9	20	
Toluene	ug/L	ND	50	50	52.6	47.5	105	95	59-136	10	20	
Total Haloether	ug/L	ND			531	482				10		
trans-1,2-Dichloroethene	ug/L	ND	50	50	47.7	41.8	95	84	57-132	13	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	47.4	44.5	95	89	59-154	6	20	
Trichloroethene	ug/L	ND	50	50	49.4	44.5	99	89	58-140	10	20	
Trichlorofluoromethane	ug/L	ND	50	50	54.5	49.7	109	99	24-175	9	20	
Vinyl chloride	ug/L	ND	50	50	43.0	39.1	86	78	21-150	10	20	
4-Bromofluorobenzene (S)	%.						100	98	68-124			
Dibromofluoromethane (S)	%.						89	89	72-126			
Toluene-d8 (S)	%.						103	102	79-119			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALIFIERS

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

R1	RPD value was outside control limits.

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Fibers Public Supply Wells
Pace Project No.: 2026858

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2026858001	**TB-20151008**	EPA 5030B/8260	MSV/3844		
2026858002	**INF-20151008**	EPA 5030B/8260	MSV/3844		
2026858003	**EFF-20151008**	EPA 5030B/8260	MSV/3844		
2026858004	**EFFDUP-20151008**	EPA 5030B/8260	MSV/3844		

Pace Analytical®

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT

WO#: 2026858

2026858

Page: 1 of 1 17

Section A
Required Client Information:

Company: Arcadis U.S Inc
Address: 410 North 44th St, Suite 1000, Phoenix, AZ 85008
Email To: david.howard@arcadis-us.com
Phone: 602.797.4518
Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: David Howard
Copy To: Cassandra Mcloud, cassandra.mcloud@arcadis-us.com
Purchase Order No.: C0001911.0002.1502A
Project Name: Fibers Public Supply wells
Project Number: C0001911.0002.1502A

Section C
Invoice Information:

Attention: Accounts Payable
Company Name: Arcadis
Address:
Pace Quote Reference:
Pace Project Manager: Justin.stoos@pacelabs.com
Pace Profile #: 1037 L1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ Other_____

SITE LOCATION: ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☐SC ☐WI ☐OTHER _____

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis: 8260 VOC Holochlms; Filtered (Y/N); Residual Chlorine (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	8260 VOC Holochlms	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	TB-100815	WT	G			08/10/15	LAB		2				2					X		
2	INF-20151008	WT	G			08/10/15	0824		3				3					X		
3	EFF-20151008	WT	G			08/10/15	0832		3				3					X		
4	EFFDUP-20151008	WT	G			08/10/15	~~08~~		3				3					X		
5	EFFMSD-20151008	WT	G			08/10/15	0832		3				3					X		
6	EFFMS-20151008	WT	G			08/10/15	0832		3				3					X		
7																				
8																				
9																				
10																				
11																				
12																				

Pace Project Number: Fibers

Additional Comments:

ORIGINAL

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Andre Colon / Arcadis	10/8/15	12:02	[signature] / HRTS	10/8/15	12:12	4°C	Y	Y	Y
[signature]	10/8/15	1330	[signature] / Pace	10-8-15	1330	4	Y	Y	Y
			Fred Eo				Y/N	Y/N	Y/N
Fred Eo	10-9-15	1035	[signature]	10-9-15	1035	4.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andre Colon
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 10/08/15

SEE REVERSE SIDE FOR INSTRUCTIONS

ALLQ020rev.3,31Mar05

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon

WO#: 2026858

PM: JLS Due Date: 10/23/15

CLIENT: 20-CHEV-ARC ARCADIS

Pl

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☑ Yes ☐ No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☑ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10-9-15 AE

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☐Yes	☑No ☐N/A	1
Chain of Custody Present:	☑Yes	☐No ☐N/A	2
Chain of Custody Complete:	☑Yes	☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	6
Sufficient Volume:	☑Yes	☐No ☐N/A	7
Correct Containers Used:	☑Yes	☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No ☑N/A	9
Sample Labels match COC:	☐Yes	☑No ☐N/A	10 See below
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No ☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No ☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No ☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☑No ☐N/A	14
Trip Blank Present:	☑Yes	☐No	15

Client Notification/ Resolution:

Person Contacted: Date/Time:

Comments/ Resolution: Only Recieve 2 VOA Vials for Sample EFF-20151008MSD And all 3 VOA Vials for EFF MS -20151008 not received at all

Attachment 3
Sampling and Monitoring Field Form

ARCADIS Design & Consultancy for natural and built assets

Groundwater Extraction and Treatment System (GWETS) Sampling and Monitoring Field Form
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Collection Date	Sample ID	Collection Time	Sampler's Initials
08/10/15	INF-20151008	08:24	AC
08/10/15	EFF-20151008	08:32	AC
08/10/15	EFFDUP-20151008	08:32	AC
08/10/15	TB-20151008	LAB	AC

GWETS Operational Data at Sample Collection

Extraction Wells

RW-2	75	gpm
RW-4	164	gpm
RW-5	63	gpm

Compound Treatment System

Influent Flow Rate (FIT-101)	321	gpm
Effluent Flow Rate (FIT-301)	338	gpm
Blower (FIT-201A)	2673	cfm
Influent Flow Pressure (PIT-101)	3.4	psi
Effluent Flow Pressure (PIT-301)	12.5	psi
pH (pHIT-201A)	8.2	

Notes:
gpm = gallons per minute
cfm = cubic feet per minute
psi = pounds per square inch